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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,983	08/08/2001	Navjot Singh	501001-A-01-US (Singh)	3126

7590 11/04/2004  
Ryan, Mason & Lewis, LLP  
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EXAMINER
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BONZO, BRYCE P

ART UNIT	PAPER NUMBER
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2114

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/924,983

Applicant(s)

SINGH ET AL.

Examiner

Bryce P Bonzo

Art Unit

2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 14-18 is/are rejected.
- 7) ☒ Claim(s) 10-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **FINAL OFFICIAL ACTION**

### ***Status of the Claims***

Claims 1-4, 6-9, 14-18 are rejected under 35 USC §102.

Claim 5 is rejected under 35 USC §103.

Claim 10-13 is objected to while containing allowable matter.

### ***Rejections under 35 USC §112***

Claims 11-13 are no longer rejected under 35 USC §112, first paragraph.

### ***Rejections under 35 USC §102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-9, 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Edwards (United States Patent No. 5,901,315).

As per claim 1, Edwards discloses:

A method for use in providing improved fault tolerance in a computing system comprising at least one computing machine, the method comprising the steps of:

executing a control program in conjunction with a fault tolerance software system running on the at least one computing machine (column 4, lines 2-4: debug engine; column 3, lines 62-67 GUI); and

initiating via the control program a test script program which sends one or more requests to a monitored program (column 4, lines 4-14: probe), wherein the test script program processes corresponding responses to the one or more requests (column 4, lines 4-14), and generates at least one return value utilizable by the control program to indicate a failure condition in the monitored program (column 4, lines 4-14: report to DE).

As per claim 2, Edwards discloses:

The method of claim 1 wherein the computing system is configured in accordance with a client-server architecture and the at least one computing machine comprises a server of the computing system (column 3, lines 44-52).

As per claim 3, Edwards discloses:

The method of claim 1 wherein the control program comprises a control thread of a failure detection process associated with a failure detection component of the fault tolerance software system (inherent as the DE is a Java element).

As per claim 4, Edwards discloses:

The method of claim 1 wherein the control program comprises a thread of a failure detection process and the test script program comprises a process separate from the failure detection process (column 8, lines 42-51; column 7, lines 58-65: shows distinct process and interface structure of separate processes).

As per claim 6, Edwards discloses:

The method of claim 1 wherein the test script program is implemented in an object-oriented programming language such that one or more components of the test script program comprise a base class from which one or more other components of the test script program are generatable for use with the monitored program (column 6, line 61 through column 7, line 16).

As per claim 7, Edwards discloses:

The method of claim 6 wherein the object-oriented programming language comprises the Java programming language (title).

As per claim 8, Edwards discloses:

The method of claim 6 wherein the one or more components comprising the base class comprise one or more of an initialization component, an obtain requests component, and a request interruption component (column 4, lines 47-57; column 5, lines 1-8 are base classes).

As per claim 9, Edwards discloses:

The method of claim 8 wherein the one or more other components generatable from the base class comprise a request issuance component and a response verification component, both particular to the monitored program (column 9, lines 9-30).

As per claim 14, Edwards discloses:

The method of claim 1 wherein the test script program comprises an interpreted script (column 9, lines 24-39).

As per claim 15, Edwards discloses:

The method of claim 1 wherein the test script program comprises a native executable (column 9, lines 24-39).

As per claim 16, Edwards discloses:

The method of claim 1 wherein the test script program comprises byte code (column 9, lines 24-39).

As per claim 17, Edwards discloses all the elements of the apparatus of claim 17 in the method of claim 1 and is rejected on the same grounds.

As per claim 18, Edwards discloses all the elements of the storage medium of claim 18 in the method claim 1 and is rejected accordingly.

***Rejections under 35 USC §103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Edwards (United States Patent No. 5,901,315).

As per claim 5, Edwards does not explicitly disclose:

wherein the control program comprises a thread of a failure detection process and the test script program comprises a thread of the same failure detection process.

The use of a single process in programming is a well known practice in the programming arts allowing for highly dedicated programming construction. Single processes are often the result of natural programming in programs which only have a single use. Thus it would have been obvious to one of ordinary skill in the art at the time of invention to implement the control program and test script program as a single process thus allowing an easier programming of the debugging software.

***Objections to the Claims***

Claims 10-13 is objected to while containing allowable matter.

Applicant is reminded the claim are indicated allowable as a whole and any modification to the scope of the claim may result in a new final rejection.

***Response to Applicant's Arguments***

Regarding rejections under 35 USC §112

Applications arguments have been found persuasive and the claims have been indicated as containing allowable matter above.

Regarding rejections under 35 USC §102

Before establishing as to why Edwards is in fact analogous to the present application, the Examiner wish to point out the issue of analogous art is irrelevant under a 35 USC §102 rejection.

The following is an establishment of the analogous nature of Edwards.

Edwards and applicant's claimed invention carry out identical steps of monitoring a program, detecting faults/problems/bugs (as admitted by Applicant on page 3, line 3 of the response to the Non-Final Rejection) and then returning related values to a program. As such Edwards is analogous via being a monitoring system, a detection program and a reporting program.

Debugging is carried out to remove faults from software or hardware. Debugging a quality assurance step, which makes the software more robust and removes potential faults from the system. In many respects it the single most important step in developing a fault tolerant system. On the reverse side, should a fault tolerant system ever fail, the



debugging arts are essential to determine just how the fault tolerant system failed to tolerate a fault.

Finally, Applicant admits at on page 3, line 3 of the response to the Non-Final Rejection that Edwards as a convention debugger is specifically designed to handle problems and "bugs". These are both synonyms for a Applicant's fault.

### ***Final Disposition***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryce P Bonzo whose telephone number is (571)272-3655. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571)272-3645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Bryce P. Bonzo*  
Bryce P Bonzo  
Examiner  
Art Unit 2114